Fort Lee, Virginia
Installation Design Guide

Prepared by: Parsons
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<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Summary of Changes</strong></td>
<td>iii</td>
</tr>
<tr>
<td></td>
<td><strong>Table of Contents</strong></td>
<td>xi</td>
</tr>
<tr>
<td></td>
<td><strong>Users Guide</strong></td>
<td>xvii</td>
</tr>
<tr>
<td></td>
<td><strong>Executive Summary</strong></td>
<td>ES-1</td>
</tr>
<tr>
<td></td>
<td><strong>Section 1 Introduction</strong></td>
<td>1-1</td>
</tr>
<tr>
<td>1.1</td>
<td>Purpose</td>
<td>1-1</td>
</tr>
<tr>
<td>1.2</td>
<td>Goal</td>
<td>1-1</td>
</tr>
<tr>
<td>1.3</td>
<td>Objectives</td>
<td>1-2</td>
</tr>
<tr>
<td>1.4</td>
<td>Audience</td>
<td>1-2</td>
</tr>
<tr>
<td>1.5</td>
<td>Organization</td>
<td>1-3</td>
</tr>
<tr>
<td>1.6</td>
<td>When to Use the Army Installation Design Guide</td>
<td>1-4</td>
</tr>
<tr>
<td>1.7</td>
<td>Maintaining the Army Installation Design Guide</td>
<td>1-4</td>
</tr>
<tr>
<td>1.8</td>
<td>Responsibilities</td>
<td>1-5</td>
</tr>
<tr>
<td>1.9</td>
<td>Sustainable Design and Development</td>
<td>1-6</td>
</tr>
<tr>
<td>1.10</td>
<td>Army Standards</td>
<td>1-8</td>
</tr>
<tr>
<td></td>
<td><strong>Section 2 The Installation Design Guide Process and Implementation</strong></td>
<td>2-1</td>
</tr>
<tr>
<td>2.1</td>
<td>Introduction</td>
<td>2-1</td>
</tr>
<tr>
<td>2.2</td>
<td>The Design Guide Process</td>
<td>2-2</td>
</tr>
<tr>
<td>2.3</td>
<td>Using the Design Guide</td>
<td>2-4</td>
</tr>
<tr>
<td>2.4</td>
<td>Implementation</td>
<td>2-5</td>
</tr>
<tr>
<td></td>
<td><strong>Section 3 Design Guide Analysis Criteria</strong></td>
<td>3-1</td>
</tr>
<tr>
<td>3.1</td>
<td>Introduction</td>
<td>3-1</td>
</tr>
<tr>
<td>3.2</td>
<td>Goals, Objectives, and Recommendations</td>
<td>3-1</td>
</tr>
<tr>
<td>3.3</td>
<td>Identification and Classification of Visual Elements</td>
<td>3-7</td>
</tr>
<tr>
<td>3.4</td>
<td>Design Principles</td>
<td>3-7</td>
</tr>
<tr>
<td>3.5</td>
<td>Visual Elements</td>
<td>3-8</td>
</tr>
</tbody>
</table>
Section 4 Installation Profile ................................................................. 4-1
4.1 Setting ................................................................................................. 4-1
4.2 Existing Land Use ............................................................................... 4-36
4.3 Proposed Land Use ............................................................................ 4-42

Section 5 Visual Themes and Zones ....................................................... 5-1
5.1 Introduction ......................................................................................... 5-1
5.2 Visual Themes .................................................................................... 5-4
5.3 Visual Zones ....................................................................................... 5-10
5.4 Gateways Visual Zone ........................................................................ 5-12
5.5 Living-Training Visual Zone ............................................................... 5-29
5.6 Industrial Area Visual Zone ................................................................. 5-49
5.7 Community Services Areas Visual Zone ............................................ 5-61
5.8 Tenant Facilities Visual Zone .............................................................. 5-81
5.9 Family Housing Visual Zone .............................................................. 5-95
5.10 Open Space and Field Training Visual Zone ..................................... 5-109
5.11 Ordnance School Training Complex Visual Zone ......................... 5-123

Section 6 Improvement Projects .............................................................. 6-1
6.1 Introduction ......................................................................................... 6-1
6.2 Convert Byrd Avenue between Sisisky Boulevard and 22nd Street to a Central Troop Movement Spine ......................................................... 6-2
6.3 Upgrade Adams Avenue Troop Movement Trail between Sisisky Boulevard and 41st Street ................................................................. 6-9
6.4 Building 8401 and 8402 Site and Landscape Improvements ............. 6-21
6.5 Lee Club Site and Building Improvements .......................................... 6-25
6.6 PXTRA Complex Buildings and Site Improvements ......................... 6-29
6.7 Commissary and PX Parking Lot Landscape Improvements ............ 6-45
6.8 Museum Campus Site Improvements ............................................... 6-51
6.9 Develop a Troop Movement Pathway Flanking Sisisky Boulevard between Shop Road and Carver Avenue ......................................................... 6-57

Section 7 Site Planning Design Standards ............................................. 7-1
7.1 Introduction ......................................................................................... 7-1
7.2 Site Planning Objectives .................................................................... 7-2
7.3 Site Planning Considerations ............................................................... 7-3
7.4 Site Planning Design Criteria .............................................................. 7-4
7.5 Natural Conditions ............................................................................ 7-5
7.6 Manmade Site Conditions ................................................................. 7-7
7.7 Army Standards ................................................................................ 7-13
7.8 References ........................................................................................ 7-13
### Section 8 Building Design Standards

- **8.1 Introduction** ................................................................. 8-1
- **8.2 Building Objectives** ......................................................... 8-1
- **8.3 Structural Character** ....................................................... 8-5
- **8.4 Building Entrances** .......................................................... 8-13
- **8.5 Service Areas** ............................................................... 8-15
- **8.6 Building Accessibility** ...................................................... 8-15
- **8.7 Seismic Policy** ............................................................... 8-16
- **8.8 Indigenous Structures** ..................................................... 8-17
- **8.9 Historic Architecture** ...................................................... 8-17
- **8.10 Renovations and Additions** ........................................... 8-18
- **8.11 Plazas and Courtyards** ................................................... 8-20
- **8.12 Building Maintenance** .................................................... 8-20
- **8.13 Interior Design** .............................................................. 8-21
- **8.14 Exterior Building Materials and Color** .......................... 8-29
- **8.15 Key Facility Types Standardization** ................................ 8-31
- **8.16 Physical Security Requirements** .................................... 8-35
- **8.17 Sale and Outlease of Army Assets** ................................. 8-35
- **8.18 Army Standards** ........................................................... 8-36
- **8.19 References** ................................................................. 8-37

### Section 9 Circulation Design Standards

- **9.1 Introduction** ................................................................. 9-1
- **9.2 Circulation Objectives** ..................................................... 9-2
- **9.3 Roadway Hierarchy** ....................................................... 9-2
- **9.4 Roadway Setbacks** ....................................................... 9-11
- **9.5 Roadway System Design** ............................................... 9-13
- **9.6 Intersections** ............................................................... 9-15
- **9.7 Entrance Gates** ............................................................ 9-16
- **9.8 Parking Requirements** .................................................. 9-17
- **9.9 Parking Lot Location and Design** ................................... 9-18
- **9.10 Service Areas** ............................................................ 9-21
- **9.11 Drop-Off Areas** .......................................................... 9-21
- **9.12 Walkways and Pedestrian Circulation** ......................... 9-22
- **9.13 Army Standards** ........................................................ 9-31
- **9.14 References** ............................................................... 9-32

### Section 10 Landscape Design Standards

- **10.1 Introduction** .............................................................. 10-1
- **10.2 Landscape Objectives** ................................................. 10-1
- **10.3 Principles of Landscape Development** ......................... 10-2
- **10.4 Sustainable Landscape Development** ......................... 10-3
- **10.5 Landscape Design Guidelines** ...................................... 10-4
- **10.6 Plant Material Selection** ............................................. 10-21
**EXECUTIVE SUMMARY**

**Authority:** The *Commander's Guide Army Installation Standards* published 1 October 2002 gave initial senior Army leadership direction. The *Army Installation Design Standards* establishes the Army standards for installation design as directed by the Secretary of the Army and the Chief of Staff, Army.

**ES.1 PURPOSE**

The purpose of the *Army Installation Design Standards* is to provide Army standards and serve as a tool for implementing those standards (Fig. ES.1).

- The design standards for site planning, buildings, vehicular and pedestrian circulation, landscaping, site elements (i.e. signage, utilities), force protection, and Sustainable Design are provided for incorporation into each Army installation.

- The framework for implementation is the Army Installation Design Guide (IDG). Each installation will imitate the IDG processes in the *Army Installation Design Standards* in the development of their installation specific IDG.

**ES.2 BACKGROUND**

ES.2.1 The *Army Installation Design Standards* follows the concept established in the Joint Service *Unified Facilities Criteria Installation Design* manual.

ES.2.2 Research was conducted to incorporate into Army standards the best practices from other organizations such as the Air Force, Navy, AAFES, GSA, National Park Service, Federal Highway Administration, and various city and county governments, and associations.

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Fig. ES.1 - The Army Installation Design Guide is a Tool to Implement Army Standards
ES.2.3 Existing Army Installation Design Guides were also reviewed for their application of procedures, examples, and benchmarks for IDG implementation Army-wide.

**ES.3 IDG METHOD**

ES.3.1 The IDG provides standards and guidelines to installation decision-makers, contracted and in-house planning and design professionals, installation maintenance personnel, and others. The IDG sets interior and exterior standards and planning criteria to be integrated into all proposals, design and construction contracts, renovation, maintenance, or repair projects performed on the installation or its properties.

ES.3.2 The following paragraphs present an overview of the steps involved in developing an installation-specific IDG. The IDG promotes a sense of arrival, functional compatibility, visual order, enhances site assets, relates the natural and man-made environment, and achieves consistent architectural themes throughout the installation and where applicable its sub-installations.

**Step 1. Installation Profile**

Initially an installation profile is created in which the installation setting, existing land use, and proposed land use are detailed to include all applicable sub-installations.

**Step 2. Visual Surveys**

The first survey establishes the visual zones and themes of the installation. The second survey documents the liabilities and assets within each visual zone.

**Step 3. Visual Zones and Themes**

Information gathered is recorded and used to delineate visual zones. Zones with similar visual characteristics are grouped together to form a broader category called themes. Visual characteristics define a "look and feel" of an area together with the dominant features that
define its image. Typical visual characteristics include unique buildings, vehicular and pedestrian corridors, functional use, natural features, and spatial relationships (Fig. ES.2).

**Step 4. Assets and Liabilities**

Each visual zone is then defined for its assets and liabilities. Subsequently, a functional analysis is prepared.

**Step 5. Recommendations**

Recommendations are developed to address the liabilities identified and to enhance the assets noted in accordance with Army standards and the IDG goals and objectives. Recommendations are in the form of specific projects that are utilized to prepare a prioritized projects list for approval by the installation Real Property Planning Board (RPPB).

**ES.4 RESPONSIBILITIES**

**ES.4.1 Assistant Chief of Staff for Installation Management (ACSIM):**

- Establish Army facility standards and approve deviations from the standards.
- Approve Army Installation Design Standards Implementation Plan.
- Approve Army Installation Design Standards Investment Strategy.

**ES.4.2 Director Installation Management Command (IMCOM):**

- Develop and implement the Army Installation Design Standards Implementation Plan.
- Develop and implement the Army Installation Design Standards Investment Strategy.
• Ensure compliance with the Army Installation Design Standards.

• Maintain electronic newsletter for communicating changes in standards.

ES.4.3 Garrison Commander:

• Develop the installation’s IDG.

• Chair installation RPPB to review and approve projects established on the Prioritized Improvement Projects List to meet Army standards.

• Submit Prioritized Improvement Projects List for approval and funding in accordance with Director, IMCOM instructions after review and approval by Senior Mission Commander.

• Enforce IDG standards.

ES.4.4 Senior Mission Commander:

• Review and approve IDG.

• Review and approve RPPB prioritized improvement projects list recommendations to meet Army standards prior to submission to IMCOM Region Director.

ES.4.5 Major Army Command/Tenant:

• Participate in installation RPPB.

• Participate in design and planning charrettes.

• Determine project functional requirements.

• Participate in design reviews.

• Participate in development of Prioritization Projects List.
SECTION 1
INTRODUCTION

1.1 PURPOSE

1.1.1 A military installation conveys a visual image established by its architectural and historical character, arrangement of facilities, circulation patterns, and features in the landscape. This image can be clear, orderly, logical and attractive; or cluttered, confused, and unattractive.

1.1.2 The purpose of the Army Installation Design Guide (IDG) is to provide design guidance for standardizing and improving the quality of the total environment of the installation (Fig. 1.1). This includes not only the visual impact of features on the installation but also the impact of projects on the total built and natural environment. The improvement of the quality of visual design and development and use of sustainable design and development practices have a direct and future impact on the quality of life for those who live, work, or visit the installation.

1.1.3 The IDG includes standards and general guidelines for the design issues of site planning; architectural character, colors and materials; vehicular and pedestrian circulation; and landscape elements, including plant material, seating, signage, lighting, and utilities. Design guidelines incorporate sustainable design, quality of design, anti-terrorism, low maintenance, historical, cultural and other archaeological considerations, durability, safety, and compatibility.

1.2 GOAL

The goal of the IDG is to provide a clear, comprehensive approach to establish and maintain a positive visual imagery throughout the installation and implement appropriate standards. This is...
accomplished by providing a systematic development process that is defined through description, analysis, synthesis, and implementation.

1.3 OBJECTIVES

The objectives of the IDG are:

1.3.1 To provide a set of general design standards and guidelines that define color, materials, style, signage, and other aspects of design for all visual elements surveyed.

1.3.2 To provide standards and guidelines for the selection of materials for new construction, renovation, maintenance and repair projects.

1.3.3 To provide guidance for accomplishing sustainable development. See Appendix D.

1.3.4 To provide a structured method for establishing projects to improve the visual imagery of the installation.

1.3.5 To provide guidance to integrate ATFP standards.

1.4 AUDIENCE

1.4.1 The IDG is to be used by all individuals involved in decision-making, design, construction, and maintenance of facilities (Fig.1.2). The primary users include the following:

1.4.1.1 Senior Mission Commander

1.4.1.2 Garrison Commanders and Staff

1.4.1.3 Installation facility planning and design personnel

1.4.1.4 Installation facility maintenance personnel

1.4.1.5 Installation Management Agency and Region

1.4.1.6 U.S. Army Corps of Engineers project managers, design, and construction staff

Fig. 1.2 - Design Guide Audience.
1.4.1.7 Consulting Planners, Architects, Engineers, Interior Designers, and Landscape Architects

1.4.1.8 Supporting agencies such as AAFES, DeCA, DoDDS, MEDCOM, tenants, etc.

1.4.1.9 National Guard

1.4.2 The ultimate success of the IDG is dependent upon the commitment of the above individuals and organizations working as a team to apply the Army standards.

1.5 ORGANIZATION

1.5.1 This Army IDG is organized to facilitate the preparation and execution of projects to improve the visual image on the installation and ensure design conforms to Army standards to include sustainability.

1.5.2 Sections 2 and 3 discuss the process, use, and implementation of the IDG.

1.5.3 Section 4 establishes the installation profile. The installation setting, existing land use, and future land use are detailed.

1.5.4 Section 5 addresses the development of installation visual themes and zones. It lists visual themes and zones, specifies assets and liabilities of each zone, and offers recommendations.

1.5.5 Section 6 provides a list of prioritized improvement projects. All projects are addressed in terms of existing conditions, design concept, cost estimate, funding and maintenance impact, and site plan where applicable.

1.5.6 Sections 7 through 12 discuss six design components that provide the categories used for review and analysis during the visual inventory of the installation. The visual impressions of each zone are categorized according to these six design components.
1.6 WHEN TO USE THE ARMY INSTALLATION DESIGN GUIDE

1.6.1 This IDG provides installation-specific design data. The general design concepts, recommendations, and standards addressed herein are applicable to all Army installations. This document will be used as a reference to acquire recommendations and Army standards on the design of all facilities, Area Development Guides (ADG), new roads, road widening, parking, sidewalks and other pedestrian paths, bicycle paths, Access Control Points (ACP), site furnishing selection and placement, signage selection and placement, lighting selection and placement, utility corridor selection, and utilities. Clearing of plant materials and planting of new plant materials will be based upon the guidance herein (Fig. 1.3).

1.7 MAINTAINING THE ARMY INSTALLATION DESIGN GUIDE

1.7.1 Since the IDG is a "living document", keeping it up-to-date and accurate will ensure its continued usefulness. Therefore, it will become necessary to revise it as mission, budget, standards, and other conditions generate new planning and design requirements and in response to facility user feedback.

1.7.2 In accordance with AR 210-20, Master Planning for Army Installations, the installation is the adjudicating body for the Army IDG at the installation level. Violations and variances from standards will be reviewed and adjudicated by the RPPB. The Senior Mission Commander will chair the Installation Executive Planning Board (IEPB) to review and approve the RPPB’s actions.

1.7.3 The Fort Lee IDG is maintained by the installation Master Planner in DOL/DPW. Periodically, or when circumstances merit, the Master Planner, in consultation with others in DOL/DPW and the appropriate organizations at the installation, review the IDG and institute minor updates. These updates can take the form of a letter of clarification or the reissue of a section of the document. Major changes
are reserved for the full update of the IDG which normally follows completion of the Real Property Master Plan.

1.8 RESPONSIBILITIES

1.8.1 As directed by the Secretary of the Army and the Chief of Staff, Army and approved by the Army Installation Management Board of Directors the following responsibilities are established:

1.8.1.1 Assistant Chief of Staff for Installation Management (ACSIM):

- Establish Army facility standards and approve deviations from the standards.

- Approve Army Installation Design Standards Implementation Plan.

- Approve Army Installation Design Standards Investment Strategy.

1.8.1.2 Director Installation Management Command (Dir IMCOM):

- Develop and implement the Army Installation Design Standards Implementation Plan.

- Develop and implement the Army Installation Design Standards Investment Strategy.

- Ensure compliance with the Army Installation Design Standards.

- Maintain electronic newsletter for communicating changes in standards.

1.8.1.3 Garrison Commander:

- Develop the installation's IDG.

- Chair Real Property Planning Board (RPPB) to review and approve projects established on the Prioritized Improvement
Projects List (Appendix G) to meet Army standards.

- Submit Prioritized Improvements Projects List for approval and funding IAW Director, IMA instructions after review and approval by Senior Mission Commander.
- Enforce IDG standards.

1.8.1.4 Senior Mission Commander:
- Review and approve IDG.
- Review and approve RPPB prioritized improvement projects list recommendations to meet Army standards prior to submission to IMCOM Region Director.

1.8.1.5 Major Army Command/Tenant:
- Participate in installation Real Property Planning Board.
- Participate in design and planning charrettes.
- Determine project functional requirements.
- Participate in design reviews.
- Participate in development of Prioritization Projects List.

1.9 SUSTAINABLE DESIGN AND DEVELOPMENT

1.9.1 Practicing the principles of sustainable design in the planning, design, construction, and operation of infrastructure and facilities is a smart business practice. Protecting our natural resources and reducing our impact on the natural environment is achievable when we create high-performance, healthy, energy efficient (Fig. 1.4), and safe buildings.

1.9.2 The Integrated Design Process. Critical to the success of sustainable design and development is the organization and commitment of the team to engage
in the Integrated Design Process. To effect change in building design and operation, the project delivery process itself must become a collaborative effort to integrate design strategies among all disciplines and all players in the project delivery process. Integrated design demands a more inclusive team, working closer together than is traditionally the case. Future building users and facility managers must be invited to join architects, engineers, and planners in developing the vision and goals for new facilities. (Adapted from the HOK Guidebook to Sustainable Design)

1.9.3 Appendix D, Sustainable Design, discusses the sustainable design concept and its application to Army projects. Paragraph D.3 discusses Leadership in Energy and Environmental Design (LEED) developed by the U.S. Green Building Council (USGBC). The SPIRIT rating system has been replaced by LEED. The SPIRIT rating system was established per the Assistant Secretary of the Army (Installation & Environment) Sustainable Design and Development Memorandum and the Assistant Chief of Staff for Installation Management (ACSIM) endorsement of Sustainable Design and Development initiative. The LEED rating system will be used by design professionals in all new construction, additions, or renovation of Army facilities for rating sustainability (Fig. 1.5 and 1.6).

1.9.3.1 The LEED document (Appendix E) was derived from the U.S. Green Building Council LEED 2.2 for New Construction and Major Renovations.

1.9.3.2 Army Rating Standard.

1.9.3.2.1 The LEED rating of "Silver" is the standard for all FY08 MILCON vertical construction projects currently under design (Fig. 1.7). For all other FY07 and future-year MILCON projects, the minimum LEED rating requirement is "Silver". (For SPIRIT related information see Assistant Secretary of the Army Memorandum Subject: Sustainable Design and Development Requirements, dated 18 March 2003.)

1.9.4 Further information on sustainable design can be obtained at the following websites:
• **Assistant Chief of Staff for Installation Management, Sustainable Design and Development Website** This site provides information on the following topics: documentation and references; sustainable process, tools, products and materials; Sustainable Design and Development Training; and links to various sustainable design and development informational website.

• U.S. Army Corps of Engineers, Engineering Research and Development Center, Construction Engineering Research Laboratory (CERL), [Sustainable Design and Development Website](#).

• **Whole Building Design Guide** (WBDG) This site provides comprehensive and current information on sustainable design strategies and technologies.

### 1.10 ARMY STANDARDS

1.10.1 Army Standards and References are included in the last two paragraphs of the following sections and appendices: Section 7, Site Planning Design Component; Section 8, Buildings Design Component; Section 9, Circulation Design Component; Section 10, Landscape Design Component; Section 11, Site Element Design Component; Section 12, Force Protection Design Component; Appendix D, Sustainable Design; and Appendix M, Historic Preservation Guidelines.
2.1 INTRODUCTION

Military installations are hometowns for many of our military families, resources for many veterans and retirees, and an integral part of the surrounding communities. Fort Lee supports the development of logistics concepts for the future and training the Army of tomorrow. In this capacity, it serves as the home of the Combined Arms Support Command and Quartermaster Corps. Fort Lee will become home for all of the Army Ordnance Training Schools as a result of Base Realignment and Closure (BRAC) (Fig. 2.1). In these roles Fort Lee provides the environment within which soldiers-in-training develop long lasting impressions and attitudes toward themselves and the Army. Therefore, this environment must be one which fosters pride, commitment, and professionalism, while encouraging each individual to set high standards of personal performance. To achieve these goals, the design of the physical environment itself must demonstrate the value of excellence.

The IDG provides direction for achieving a sense of community, order, tradition, and pride on our installations. This IDG is a tool for achieving excellence in installation design. It is a manual which establishes specific design criteria and outlines a program to maintain and enhance Fort Lee's visual assets while correcting visual liabilities. The overall goal of these efforts to improve the quality of design is intended to develop an installation environment that will inspire pride, promote morale, and increase productivity.

The IDG has been developed through a careful process, beginning with a thorough analysis of the various visual zones which make up the environment.
of the installation. Out of this analysis has emerged an understanding of the overall image of Fort Lee and the establishment of a theme for developing specific goals, priorities, and actual design guidelines for the installation (Fig. 2.2). These guidelines address specific physical design issues relating to particular areas as well as general issues concerning prototypical conditions throughout the installation. In general, the scope of the IDG encompasses all significant aspects of Fort Lee's exterior visual environment which can be influenced by construction or maintenance.

The IDG design criteria are to be implemented by the DOL/DPW. The DOL/DPW staff will apply the IDG directly in their own work and will include relevant sections of the design criteria with their instructions to Architectural/Engineering design firms who will be contracted to design future facilities at Fort Lee.

This section provides a brief overview of the IDG developmental process and methodology detailed in Unified Facilities Criteria (UFC) 2-600-01, Installation Design.

2.2 THE DESIGN GUIDE PROCESS

2.2.1 The IDG includes a process for analysis, planning, design, and implementation. This process includes the following steps:

2.2.1.1 Setting Goals and Objectives. The installation develops a set of goals and objectives that address the visual requirements of the installation. The goals and objectives provide a pre-determined image that helps create a visually pleasing and optimally functional environment.

2.2.1.2 Conduct Visual and Spatial Surveys. Two visual surveys are performed in the preparation of the IDG. The first survey establishes the visual zones and themes of the installation. The second survey documents the assets and liabilities within each visual zone. Chapter 5 of UFC 2-600-01 details the method for conducting the installation visual survey (Fig. 2.3).
2.2.1.2.1 Establish Visual Zones and Themes

2.2.1.2.1.1 The Information gathered during the first survey is used to establish the visual zones of the installation. The visual zones are delineated by the visual characteristics of an area defined as the "look and feel" of an area together with the dominant features that help define its image. A functional analysis of each zone organizes the visual impressions and assesses their functional relationships to determine the visual character and unifying motif. Typical visual characteristics include unique buildings, vehicular and pedestrian corridors, functional use, natural features, and spatial relationships (Fig. 2.4).

2.2.1.2.1.2 Visual zones with similar characteristics are then grouped together to form a broader category called themes. Example themes include, community life theme, operations support theme, buffer/open space theme, and industrial theme.

2.2.1.2.2 Determine Assets and Liabilities. The second survey a visual zone inventory is conducted. During the survey each visual zone is analyzed for specific visual impacts. The objective of the inventory is to define the visual assets and liabilities within the visual zone.

2.2.1.2.2.1 Assets. Assets are positive visual elements, design elements, or features that enhance the surroundings, either visually or functionally.

2.2.1.2.2.2 Liabilities. Liabilities are negative visual elements, design elements, or features that detract from the visual image or functionality of the surroundings. Liabilities should be corrected through appropriate design measures and are the basis for recommendations for improvement (Fig. 2.5).

2.2.1.3 Recommendations and Implementation Plan. The assessment of each visual zone includes recommendations to correct liabilities and where desired to enhance assets. The recommendations are in the form of specific projects and are described in detail Section 6, Improvement Projects of the IDG.
2.2.2 Design Components

The following six design components, described in Sections 7 through 12, provide guidelines and standards from which to conduct the visual zone review and analysis.

Section 7, Site Planning
Section 8, Buildings
Section 9, Circulation
Section 10, Landscape
Section 11, Site Elements
Section 12, Force Protection

2.2.3 Design Principles. The visual inventory and analysis requires an understanding of basic design principles. These design principles are discussed in Section 3, paragraph 3.3.

2.2.4 Visual Elements. The basic design principles are used to define the visual elements described in Section 3, paragraph 3.5. The assessment and classification of visual elements follows basic design principles describing "good" (positive visuals elements) and "not so good" (negative visual elements) design.

2.3 USING THE DESIGN GUIDE

2.3.1 Use this IDG in determining the general design and construction considerations inherent in the preparation of project plans. The IDG provides design guidelines and Army-wide design standards intended to be used in all maintenance, repair, renovation, and new construction projects. The IDG applies to all projects, including BRAC and Residential Communities Initiative (RCI) projects, regardless of the funding source.

2.3.2 The following steps illustrate how the IDG is used for the preparation of plans for new construction,
renovation, maintenance and repair projects on the installation (Fig. 2.6):

2.3.2.1 Step 1: Review the Installation Profile information included in Section 4 of the IDG.

2.3.2.2 Step 2: Review the IDG analysis criteria information in Section 3 including design goals and objectives, visual elements, and design principles.

2.3.2.3 Step 3: Review the applicable references, guidelines, and standards of the design components. These include site planning, buildings, circulation, landscaping, site elements, and force protection and are discussed in Sections 7 through 12 respectively.

2.3.2.4 Step 4: Review the information and description of the installation themes in Section 5, paragraph 5.2.

2.3.2.5 Step 5: Select the zone where the project will be located from Section 5, Visual Themes and Zones. Review the assets, liabilities, and recommendations for that zone.

2.3.2.6 Step 6: Select the appropriate guidelines or standards from the design components addressed in Sections 7 through 12.

2.3.2.7 Step 7: Assemble all materials gathered in steps 1 through 5 above.

2.4 IMPLEMENTATION

2.4.1 IDG Review and Approval

At Fort Lee, when the IDG is revised or updated, DOL/DPW conducts a full review of the issues that should be addressed and prepares a preliminary review document for circulation. The review document is provided to the Garrison organizations which are responsible for operation and maintenance of facilities. An update to the IDG will incorporate any changes made necessary by the latest RPMP and revised command level policies. Ordinarily, the IDG does not change radically from one version to the
next. The goals and objectives remain largely the same as does the overall image intended for Fort Lee. Normally, most changes to the IDG involve specific items which surface in response to changes to land uses and development that has occurred since the previous update such as Base Realignment and Closure requirements (BRAC).

2.4.2 Compliance

2.4.2.1 For the IDG to work optimally as a management tool, it is essential that the Master Planner or designated representative establish an understanding of the IDG among the parties concerned with its use. This can best be established at the RPPB level where all installation principles are represented. The DOL/DPW staff Master Planner or designated representative shall insure that the guidelines and requirements of the IDG are readily available to, and understood by, all parties involved in the design of new facilities, design of additions or alterations to existing facilities, or maintenance.

2.4.2.2 The Master Planner or designee, acting in support of the RPPB, is the first level reviewer of projects (Sustainment Restoration Modernization [SRM], Military Construction, Army [MCA], and Non-Appropriated Funds [NAF] to include Design Build) and other requests for actions that involve compliance with IDG guidelines and standards.

2.4.2.3 The Garrison Commander, supported and advised by the RPPB, is the final authority in enforcement of the IDG guidelines and standards.

2.4.2.4 The Installation Executive Planning Board is chaired by the Senior Mission Commander and will monitor development of the installation planning process and provide guidance to the RPPB, other installation boards and the Garrison Command for areas such as:

- Strategic Planning,
- Real Property Planning,
• Range Planning, and

• Communications Planning.

2.4.3 Project Approval

2.4.3.1 Project requests to include a Department of the Army (DA) Form 4283 will be submitted to the DOL/DPW and will include the required Design Team IDG Checklist discussed below.

2.4.3.2 Design Team IDG Checklist.

2.4.3.2.1 The Design Team IDG Checklist is to be completed by the design team to assure the guidelines and standards have been considered in the design process. The Design Team IDG Checklist is provided in Appendix A.

2.4.3.2.2 The Designer of Record or Design Agent will provide a copy of the completed checklist to the Master Planner, together with a signed certification statement with each design submittal. The checklist along with concept site plans and elevations for each design submittal shall be provided to the Master Planner for review. If the Master Planner or designated representative concurs, the plan and the signed checklist are forwarded to the RPPB for final approval.

2.4.3.2.3 The accepted checklist shall become a part of the project record files.

2.4.4 Self-help Projects and Occupant Purchased and Installed Site Furnishings and Features Projects

At Fort Lee all unit purchases and installations of outdoor equipment or modifications to building exteriors or interiors shall be described and submitted as a work order to DOL/DPW. Upon review and approval by DOL/DPW the purchase and work may proceed in accordance to approval instructions.
2.4.5 Request for Waiver

2.4.5.1 A request of waiver from the Design Guide Checklist (Appendix A) will be submitted to the Master Planning office for approval by the RPPB.

2.4.5.2 A request for waiver from the Army standards shall be submitted to the Assistant Chief of Staff for Installation Management for approval.

2.4.6 Checklists

2.4.6.1 Projects Requirements Checklist

It is recommended that this checklist be used as a pre-design planning tool for initiating projects and to present a functional description of the project at MILCON Planning Charrettes and Design Charrettes. The checklist can assist participants of the charrettes in project formulation and documentation. The form should be completed to the greatest extent possible prior to the charrettes. The checklist can also be used to document the results of the planning or design charrettes. The Projects Requirement Checklist is provided at Appendix B (Fig. 2.7).

2.4.6.2 Interior Design Review Checklist

It is recommended that the Interior Design Review Checklist be used during review of a Request for Proposal (RFP) submission or an AE or in-house design prior to solicitations. The Interior Design Review Checklist is provided at Appendix C.

2.4.7 The requirement to use the IDG as a design tool in all facility planning, design, and construction should be included in the Request for Proposals on new projects, Scopes of Work for new projects, and maintenance agreements.

2.4.8 Applicants must contact DOL/DPW before proceeding with a project and verify compliance with Fort Lee planning, design, landscaping, environmental and construction requirements. Fort Lee Master Planner: 734-3368.
SECTION 3
DESIGN GUIDE ANALYSIS CRITERIA

3.1 INTRODUCTION

3.1.1 The Army Installation Design Guide process depends upon the development of visual goals and objectives and the identification of visual elements. Goals and objectives provide the desired visual context of the installation.

3.1.2 Basic design principles are used to assess, define, and classify visual elements. This assessment becomes the design criteria used to determine the visual character of the installation. These design criteria are used for design decisions in the review of existing visual context and determination of project recommendation.

3.2 GOALS, OBJECTIVES, AND RECOMMENDATIONS

Chapter 4 of the UFC 2-600-01 discusses the goals, objectives, and recommendations process and gives examples.

3.2.1 The visual image of Fort Lee is the product of a multitude of decisions affecting the built environment made over a long period of time by many individuals at various levels of responsibility (Fig. 3.1). This continuous decision-making process must be directed by an overall long-range strategy aimed at developing a coordinated image of quality and excellence (Fig. 3.2). This strategy must consider not only the activities and physical features that exist on the installation today, but also future programs that will be developed. BRAC, RCI and PAL will need to be included in any future development as well. This IDG is directed by the following goals and objectives,
which represent an overall strategy for installation
design at Fort Lee, and are prioritized in the following
manner.

Goal No. 1. Develop a living-training “campus”
environment that is cohesive, efficient, and attractive (Fig. 3.3).

The barracks and training areas along Adams
Avenue, Byrd Avenue and Carver Avenue, and north
of Route 36, constitute the core of Fort Lee where
living and training activities take place in an integrated
cluster of facilities. The spatial relationships of
barracks buildings to surrounding open training fields,
parade grounds, support facilities, access roads,
parking lots, and athletic fields must be carefully
coordinated to best accommodate important
functional relationships and to enhance the visual
image. The U.S. Army Corp of Engineers, Fort Worth
District is responsible for barracks standard designs
for basic and advanced training. A 312-person three
story building and a 624-person five story design has
been created to standardize these training activities.
However, the exterior façade designs will reflect Fort
Lee architectural requirements for color and materials.

To achieve this goal a general Development Concept
Plan should be produced for the crescent area, so
that each individual improvement project, such as the
redevelopment of the various barracks, is conceived
as part of an overall unified scheme.

Goal No. 2a. Develop a discrete pedestrian/troop
movement network south and (Fig. 3.4) north of
Route 36, and an open space system, based on the
crescent “spine” organization that now exists.

Byrd Avenue should be converted to a troop
movement and pedestrian circulation spine linking
together all living-training activities along the crescent
area. This spine should be appropriately paved and
landscaped to provide a linear focal space for
pedestrian movement, as well as for group activities
such as troop mustering, parading, and everyday
physical training exercises. This linear spine should
be the focus of the living-training campus area, and
buildings should be oriented to emphasize this focus.
Vehicular access to buildings lying between Adams and Carver Avenues should be organized so that traffic across the Byrd Avenue spine is minimized. When minor cross traffic is required, the pedestrian should have right of-way and the spine treatment should be carried across the road. Parking areas should be kept close to Adams and Carver Avenues, which will become the major vehicular circulation elements.

The character of this pedestrian spine should also be extended along routes linking other significant activity centers on the post, such as the Community Services Areas. Points where these well traveled routes cross roadways should be well marked.

Goal No. 2b. Establish Adams Avenue as the primary vehicular circulation spine to create a strong linear unifying element.

The roadway should appear as a consistent element linking together the various areas of the post from First Street through the Sisisky Boulevard, Lee, and Mahone Avenues gateway intersections to the CASCOM building (Fig. 3.5) at Sisisky Boulevard. The hierarchy of primary, secondary, and tertiary road types should be reinforced through the uniform treatment of landscaping, roadway cross section and building setbacks and orientation. Gateway intersections should appear as important nodes with generous building setbacks and large-scale monuments where appropriate, as well as clear and efficient directional signage. Redundant parallel streets should be minimized and eliminated where possible to allow larger contiguous spaces for development and simplified traffic patterns.

Goal No. 3. Improve the visual quality of the Community Services Areas (Fig. 3.6) and the PX/Commissary area.

Vehicular access to and circulation through parking areas should be better organized. Adequate planting buffers should separate parking areas from the main roads, and appropriate landscaping should be added within the parking areas. Pedestrian zones should be established and linked with pedestrian routes leading...
to barracks and housing areas. Orientation of building entrances and service areas should be coordinated (Fig. 3.7) to eliminate conflicts and to correct unsightly conditions.

Goal No. 4. Develop a strong identity and high quality visual image for the Bldg. 1109 / 1st Street area.

Major renovation of Bldg. 1109, known as the “blockhouse”, (Fig. 3.8) provides an opportunity to address a serious visual liability. The renovated blockhouse, on 1st Street, will form the anchor for a cluster of related facilities that should formally establish a northeastern terminus of the Adams, Byrd and Carver Avenues corridor. A unified image should be developed for this area through coordinated design and siting of buildings, roadways, and parking areas, establishing a focal open space surrounded by functionally related buildings. Vehicular circulation should be organized to link the area with the Sisisky Boulevard gateway via Adams Avenue (Fig 3.9). The end of Adams Avenue should be designed as a significant terminus and linked with Carver Avenue along a realigned street which allows for a generous setback at the expanded blockhouse.

Goal No. 5. Develop attractive “gateway” environments at all primary and secondary entrance areas. (Fig. 3.10)

Reinforce the existing positive image along the Route 36 corridor and along the Lee Avenue entrance. Visual screening should continue to be improved by allowing further under-story growth to develop beneath the tall loblolly pines which form a buffer strip between the highway and the industrial area.

The loblolly pine or other Fort Lee approved landscape highway buffer strip should be extended along both sides of Sisisky to establish a tree-lined boulevard image similar to that of Lee Avenue, and to screen views to the adjacent industrial area.

The visual quality of secondary entrances at Mahone Avenue, Adams Avenue, and Shop Road should be
improved through coordinated signage and appropriate landscaping.

Goal No. 6. Improve the visual quality of the tenant areas, establishing a strong focus for each cluster of related facilities (Fig. 3.10).

An overall area development concept plan should be produced for the Petroleum and Water Department and tenant facilities that will be developed in the 38th Street area. The abundance of mature canopy trees in this area is a unique asset and should be preserved. The current program of removing aged frame structures should be continued. Unnecessary or redundant streets should be removed to create greater flexibility for siting new facilities and to consolidate and simplify traffic patterns. The access road to the Army Logistics Management Center (ALMC) building should be realigned to lead directly to the entrance, and parking areas should be organized and landscaped throughout.

Goal No. 7. Enhance quality of residential areas through improvements to the streetscape, yard areas, and building exteriors. RCI assumed responsibility for all family housing located at Fort Lee in September 2007.

The construction of new housing is an opportunity to significantly improve the visual image of the residential streets, as exemplified by the Phase I redevelopment of Jackson Circle (Fig. 3.11 and Fig. 3.12) and the new family housing in Jefferson Terrace.

Phase I at Jackson Circle and at Harrison Villa have been completed. Proposed Phase II development at Jackson Circle would result in more housing units, as will the proposed and funded Phase II development soon to begin at Harrison Villa. Additional units would also result from Phase III development currently proposed for Harrison Villa.
Goal No. 8. Protect and improve woodland environment.

Enhance the quality of woodland areas as natural settings for troop training and as visual amenities for adjacent facilities and residential neighborhoods. Allow the natural understory growth to develop at the forest edge along a consistent mow line. Restrict tree harvesting to areas out of view from roadways or from active areas of the post and leave a buffer when possible. Maintain pathways through the woodlands, converting derelict paved roadways to gravel paths suitable for troop movements. Finally, minimize adverse effects of soil erosion on Bailey Creek by using adequate storm water management techniques. Preserve the natural habitat and character of the Petersburg National Battlefield that abuts the Jackson Circle residential community and the western side of Fort Lee (Figs. 3.13, 3.14, and 3.15).

Goal No. 9. Enhance the image of field training areas.

Design of field training facilities should be coordinated to develop a distinctive and identifiable image. TA-5 will be excluded due to the requirements of BRAC which brings the Army Ordnance School facilities to the site. Outdoor instruction areas should be located and designed with careful consideration of sun orientation, wind and other microclimatic conditions to support the training activity. Finally, routes used for troop movements should be suitably paved and graded for foot traffic (Figs. 3.16, 3.17, and 3.18).
3.3 IDENTIFICATION AND CLASSIFICATION OF VISUAL ELEMENTS

3.3.1 Basic design principles define visual elements and assess their character.

3.3.2 The assessment and classification of visual elements follows basic design principles describing “good” and “not so good” design. Their assessment becomes the design criteria used to determine the visual character of the installation.

3.4 DESIGN PRINCIPLES

The visual inventory and analysis requires an understanding of basic design principles. The primary principles are:

- **Scale** - The proportional relationship of humans to their spatial environment. The scale should result in a comfortable relationship for the user and will vary as space, size and activities vary (Fig. 3.19).

- **Form** - The size and shape of mass. Individual forms should be designed to complement one another and the environment.

- **Function** - The use of a space or an area. Function is gauged by the degree to which the space works for its intended purpose.

- **Color** - All elements of the visual environment have color. The use and arrangement of colors greatly determine the visual impact of all elements.

- **Texture** - All elements of the visual environment have texture. The use and blending of textures greatly impact the visual environment.

- **Unity** - All elements of the visual environment should blend to complement one another. Repetition of scale, form,
color, and texture results in a unified visual impression.

- **Framing** - All views include a ground plane, side planes, and overhead plane. The relationship of planes changes as the individual moves through the environment.

- **Axis** - An axis is a linear progression of space connecting two or more dominant features (Fig. 3.20).

- **Terminus** - A terminus is the end of an axis and is typically defined by a dominant feature such as a building.

- **Balance** - Visual elements are composed to be symmetrical or asymmetrical. In either case, visual elements should be sized and located in order to provide visual balance (Fig. 3.21).

- **Sustainability** - Practicing the principles of sustainable design in the planning, design, construction, and operation of infrastructure and facilities is a smart business practice. *(See Appendix D)*.

### 3.5 VISUAL ELEMENTS

The visual elements, described below, elements include manmade and natural features and their inter-relationship. This Army IDG provides guidance on how to recognize the visual impacts of the installation and how to improve upon them if warranted.

- **Natural Characteristics** - Regional and site characteristics that have been preserved and enhanced as a part of the installation.

- **Edges and Boundaries** - Linear elements such as walls, fences, or trees create separation of use and activities.
• **Buildings and Structures** - Typically the most dominant features of an installation. Their location and design characteristics determine the primary visual image (Fig. 3.22).

• **Activity Nodes** - Centers of activity that attract people on a daily basis.

• **Landmarks** - Visually or historically prominent features such as towers, statues, static displays, or buildings that provide identity and orientation of place (Fig. 3.23).

• **Entrances and Gates** - Provide the first and last impression of the installation.

• **Circulation System** - Includes streets, railroad tracks, trails, sidewalks, parking lots, driveways, delivery areas, and bicycle paths. The circulation system utilizes a large amount of space and creates significant visual impact.

• **Trees and Other Vegetation** - Trees and other vegetation frame views, provide visual screens, shade, color, and interest in the installation.

• **Street Trees** - Street trees soften, complement, and define the road hierarchy, and improve the overall visual quality of the installation (Fig. 3.24).

• **Views and Vistas** - Scenic and attractive views and vistas should be enhanced. Unattractive views should be screened.

• **Open Spaces** - Open space areas create visual impact and can be designed to either separate or integrate adjacent uses.
• **Signage** - A coordinated installation signage plan, addressing both exterior and interior signage, should be developed to facilitate circulation and provide useful information (Fig. 3.25).

• **Utility Corridors** - Utilities should be in corridors and unsightly above ground utilities minimized.

• **Other Elements** - Visual elements other than those above may occur within an installation and should be noted.
4.1 SETTING

4.1.1 Regional Setting

Fort Lee is located in Central Virginia in Prince George County. (Fig. 4.1) The installation lies between the Cities of Petersburg, Hopewell and Colonial Heights. Petersburg and the Petersburg Battlefield National Park abut Fort Lee on the west with Hopewell on the east. Colonial Heights lies to the west, across the Appomattox River. Interstate Highways 95 and 295, respectively, pass along the west and east sides of Fort Lee providing superior highway access to and from the installation. Fort Lee is approximately 25 miles south of Richmond, the capital of Virginia. The geographic location is latitude 37 degrees, 14 minutes north and longitude 77 degrees, 18 minutes west.

Central Virginia is an area rich in cultural, historical and natural resources. Jamestown, the first permanent English settlement in the New World, is located on the James River downstream from Hopewell. Yorktown, site of the British surrender during the War for Independence, is also located nearby. The area also played an important role in the Civil War. The first English exploration of the Appomattox River was in 1607. In 1645, the General Assembly of the Jamestown colony directed that a fort be built at the falls of the Appomattox. The fort was named Fort Henry, although later the area became known as Peter's Point. At the time of the American Revolution, there were approximately 3,000 people living in the vicinity near present day Fort Lee, a town that became known as Petersburg. (Fig. 4.2)
Fig. 4.2 - Fort Lee is located in Central Virginia.

Near the end of the Revolutionary War, Generals Benedict Arnold and William Phillips, commanding British and Tory troops, destroyed military stores in Petersburg, Virginia. In April 1781, a smaller force of Americans, led by General Von Steuben, engaged the British near Blandford Church, between present day Fort Lee and Petersburg. In May of that year, Lord Cornwallis and his Army joined the British forces in the vicinity of Petersburg, and marched to Yorktown. The resulting battle ended with the entrapment of the English by the Continental Army and the newly arrived
French Naval forces, securing victory in the War of Independence.

Petersburg played a critical role in the Civil War. In the summer of 1864, General Ulysses S. Grant was intent on capturing the city and cutting General Robert E. Lee's supply lines to Richmond. After ten months of siege warfare, the Union forces finally broke through and turned Lee's right flank, leaving his entire position untenable. The following day, on 2 April 1865, the Confederates evacuated Petersburg and Richmond. A week later Lee surrendered at Appomattox.

During the conflict, the longest military railroad of the war was built to supply General Grant's forces at Petersburg. This line connected to the newly constructed military wharves at City Point with the City Point Railroad and the Union Siege lines. The railway passed through what is now Fort Lee.

4.1.2 History of the Installation

On 24 April 1917, the War Department notified the Petersburg Chamber of Commerce that a site in adjacent Prince George County had been selected as a state mobilization camp. The Chamber of Commerce thereupon leased 450 acres for a Main Post Area and an additional 15,000 acres for maneuvers. Construction began on 21 June 1917. When completed, the horseshoe-shaped camp measured two miles from tip to tip, five miles around, and accommodated a population over 60,000. On 15 July 1917, the War Department announced that the camp would be named in honor of Robert E. Lee. See Panoramic views of the main cantonment area, circa 1917. (Figures 4.3a and 3b)
When World War I ended, Camp Lee served as a demobilization center. By the fall of 1919, it had virtually ceased to exist. Portions of Camp Lee were given to the Virginia State Commission of Game and Inland Fisheries, the U.S. Department of Interior for Petersburg National Battlefield, and to the U.S. Department of Corrections for the construction of a Federal Correctional facility. The majority of Fort Lee’s use as a wildlife and bird sanctuary continued until 1940. The current acreage of Fort Lee is a third of what it was during Camp Lee’s existence from 1917-1921 (Fig. 4.4).

In October 1940, the War Department ordered the construction of another Camp Lee on the site of the earlier installation. The Quartermaster (QM) Replacement Training Center started operation there in February 1941. At the time, Camp Lee was also the home of a Medical Replacement Training Center. As the QM training increased in size, it was decided that the Medical Replacement Training Center would be relocated to Camp Pickett. Later, the QM Replacement Training Center was re-designated as an Army Service Forces Training Center, but it retained its basic mission of training QM personnel. The Quartermaster School (QMS) was moved from Schuylkill Arsenal, Philadelphia, Pennsylvania, to
Camp Lee in October 1941. During World War II, nearly 300,000 troops received training at Camp Lee. A large prisoner of war camp also operated on the installation.

In the years following World War II, it became increasingly apparent that Camp Lee would be a permanent installation of the Department of the Army (DA). In April 1950, the installation was designated Fort Lee. No sooner had the title Fort Lee become official than the post was faced with training troops for duty in the Far East as a result of the outbreak of the Korean War. In July 1950, plans for a QM Replacement Training Center were formulated, and training began in September. The QM Replacement Training Center was responsible for both basic military and technical training.

One of the major achievements of the post-Korean War period has been the progress made on the permanent building program. Construction of modern permanent-type facilities was begun in the late 1940's. In 1955, the command initiated a 20-year program to build permanent brick or cinderblock structures. In 1959, an aerial drop zone requiring the leasing of 187 acres of land was added to provide training facilities for airborne activities.

In 1962, the reorganization of the Army and the abolition of the position of the QM General came about which had a far-reaching impact on the installation. Fort Lee became a Class I military installation under Second United States Army. The QMS became a part of the Continental Army Command service school system and was also designated the Home of the QM Corps.

In October 1963, Camps A.P. Hill and Pickett were designated as major subordinate organizations of Fort Lee. The installations were subsequently designated Fort A.P. Hill and Pickett on 30 September 1974. On 1 January 1966, the Second United States Army was inactivated and Fort Lee became a Class I military installation under the First United States Army. Since July 1973, Fort Lee has been under the control of the U.S. Army Training and Doctrine Command (TRADOC).
In 1983, the Commanding General at Fort Lee also functioned as the QM General of the Army, and was responsible for the professional development of QM personnel worldwide. DA General Order No. 9, dated March 1986, placed the QM Corps under the U.S. Army Regimental System (USARS) effective 13 June 1986. This order also established Fort Lee as the Corps’ regimental home base. On 1 May 1986, command and control of Forts A.P. Hill and Pickett transferred to U.S. Army Forced Command (FORSCOM), with all resources transferred on 1 October 1986. TRADOC General Order No. 5-1, dated 15 January 1987, re-designated the QM Brigade (BDE) as the 23d QM BDE effective 12 February 1987. This re-designated organized the 23d QM BDE and its subordinate unites under the USARS. In March 1989, the U.S. Army Quartermaster Center and Fort Lee was re-designated the U.S. Army Logistics Center and Fort Lee.

Effective 2 October 1990 by Permanent Order No. 163-001, the U.S. Army Logistics Center and Fort Lee was renamed the U.S. Army Combined Arms Support Command (USACASCOM) and Fort Lee, and was re-designated a Major Subordinate Command of TRADOC. The January 1994 approval by the Secretary of the Army resulted in the consolidation of all CASCOM subordinate schools’ non-teaching functions (combat and training developments, proponency, and evaluation and standardization) at Fort Lee. This reorganization made Fort Lee the TRADOC focal point for all future logistics initiatives.

Fort Lee, as a result of BRAC, will become the new home for several training organizations and schools:

- Receive Transportation Center and School from Fort Eustis, Virginia;
- Ordnance Center and School from Aberdeen Proving Ground, Maryland;
- Ordnance Munitions and Electronics Maintenance School from Redstone Arsenal, Alabama (Fig. 4.5);
• Consolidate Transportation Center and School, Ordnance Center and School, and Ordnance Munitions and Electronics Maintenance School with Quartermaster Center and School;

• Consolidate Army Logistics Management College, and Combined Arms Support Command to establish a Combat Service Support Center;

• Receive Culinary Training from Lackland AFB, Texas and establish Joint Center of Excellence for Culinary Training; and

• Receive Transportation Management Training from Lackland AFB, Texas.

4.1.3 Environmental Setting

4.1.3.1 Topography

Fort Lee is characterized by gently rolling terrain with intermittent level areas. The installation is located on the inner part of the Atlantic Coastal Plain on the Virginia peninsula near the Appomattox and James Rivers. It is in a metropolitan area that has had a history of agricultural and military activity. Topographic elevations range from 50 to 160 feet above sea level; the higher elevations occur in the western and southern areas of the post and lower elevations lie along Bailey and Cabin Creeks and along Route 630. Developed areas are generally level and are surrounded by hilly undeveloped, forested areas. The wooded Range Area north of Route 36, TA-5 is flat with rolling hills on the western edge. TA-5 is designated to become the site for the Ordnance School Campus.

Soil erosion is generally not a problem in an undeveloped area; however, preventive measures are required to be taken during and after construction for a proposed development. Installation areas with slopes five percent or greater should not be developed (Fig. 4.6) if possible, but reserved for training purposes; this would especially apply to hilly areas in the middle of and northeast of the main cantonment.
Figure 4.6Al
Steep Slopes
North Range Complex
4.1.3.2 Geology

Fort Lee is located south of the James River at its confluence with the Appomattox River within the Virginia Coastal Plain physiographic province. This province is characterized by an eastward thickening wedge of unconsolidated sedimentary deposits dipping toward the east. The western extent of the Coastal Plain is marked by a thin layer of sediments which overlay the igneous and metamorphic rock of the Piedmont physiographic province. The boundary between these two provinces is know as the Fall Line and is located two to three miles west of Fort Lee. Therefore, Fort Lee rests on relatively thin sedimentary deposits with the Petersburg Granite formation approximately 250-300 feet below the ground surface. The Petersburg Granite layer dates back to the Paleozoic Age.

Fort Lee lies within what is termed the Prince George Upland, (Fig. 4.7) which is bordered on the west the Fall Line and the east by a southwesterly trending line along Chippokes Creek. The surface of the Prince George Upland is underlain by river deposited sediments consisting of sands, silty sands and cobbles. Some layers of clay occur and are exposed along stream banks on the installation. While some of the formations are mined in the region for sand, gravel, stone and fertilizer, none on Fort Lee are actively used as source material other than for small amounts of fill.

4.1.3.3 Soils

Since most of the area within the installation has had an extensive agricultural history, most of the soils are acidic and leached. Soils along stream flood plains are primarily alluvial in composition. (Fig. 4.8) The four soil associations within the installation are:

Emporia-Slagle-Bonneau Association – Deep, moderately well and well drained soils that have silt loam surface layers and dominantly clayey or silty subsoils. Slopes range from 0-10 percent. The substratum is highly variable and ranges from sandy to loamy.
Angie-Montross-Aycock Association – Deep, moderately well and well drained soils that have silt loam surface layers and dominantly clayey or silty subsoils. Slopes range from 0-10 percent. Substrate is highly variable and ranges from sandy to clayey.

Deque-Pooler-Wahee Association – Deep, moderately well to poorly drained soils that have silt loam surface layers and clayey subsoils. The poorly drained soils are subject to ponding. Slopes vary from 0-10 percent. Substrate is dominantly clayey.

Fluvaquents Association – Deep, poorly drained soils occurring along major drainage ways and occasionally flooded by stream overflow. Soils are highly variable with sandy or loamy surface layers and sandy, loamy or clayey subsoils. Substrate varies from sandy to clayey.

Most of the Fort Lee soils appear to be dense with occasional pockets of soft clays. This indicates that the type of structural foundations to be used will vary and will be determined after soil borings are analyzed.

The water table ranges from 10 to 15 feet below the ground surface in most sandy and clay soil areas; if excavation requirements are of a greater depth, lowering of the water table on the site will likely be required. Impervious clay layers may produce a perched water table which would also require drainage. Due to the high water table, the introduction of pollutants on the surface of the ground should be minimized to limit contamination of the water table.
4.1.3.4 Climate

Temperature

The climate of Fort Lee is a modified continental one with warm, humid summers, and mild winters. The coldest temperatures occur in January, ranging from 20°F to 40°F, and seldom reaching zero or below. Summer temperatures seldom reach 100° or above. Spring and autumn weather is generally mild and pleasant. (Fig. 4.9)

Precipitation

Rainfall is usually uniformly distributed throughout the year with monthly variability. Occasional dry periods occur in autumn lasting several weeks. Flooding is a possibility during summer and early autumn from hurricanes and tropical storms bringing record rainfalls. Tornadoes are infrequent but have been sighted in the area. (Fig. 4.10)

Wind

Wind direction is variable; in winter and early spring the prevailing winds are from the south and southwest. Winds from the north are influential, and are generally associated with the passage of cool weather frontal systems from the west. Tropical systems and hurricanes can produce high winds. Summer prevailing winds are from the south-southwest as well and frequently bring thunderstorms with high winds and occasional tornadoes. Average wind speed for the area is 7.6 miles per hour but hurricane gusts at Richmond International Airport nearby have been measured up to 79 miles per hour.

Microclimate

Variations in micro-climate occur in temperature, wind velocity, light, and humidity. Forested areas differ in all these factors from developed areas with resulting increased run-off and higher velocity winds in open developed areas. Where winter wind is strong under micro-climatic conditions, provide wind breaks where possible with tall evergreen plantings. (Fig. 4.11)
4.1.3.5 Hydrology

The drainage pattern in the vicinity of Fort Lee is dendritic and irregularly branched and flat upland areas are only weakly expressed. Most stream channels have very low gradients, and stream channels readily overflow their banks during wet periods. The major creek draining the cantonment area of Fort Lee is Bailey Creek. (Fig. 4.12) Its headwaters occupy the southwestern quadrant of the Main Post. After the various drainages merge to form the main channel it flows north and eastward through the installation. Having been joined by several other unnamed tributaries and various constructed drainage sources, Bailey Creek leaves the installation by passing beneath VA Route 630 near Shop Road Gate.
Figure 4.12A

Streams
North Range Complex
4.1.3.6 Vegetation

There are twelve vegetative communities on Fort Lee, including wetlands and surface water areas. Some have been disturbed by development and the operation of the installation over the decades, but considerable natural areas remain. The communities are identified as follows:

- Open fields, lawns and grassed shoulders of roadways;
- Early successional forest, old fields and forest edge;
- Pine and mixed hardwood upland forest (oligotrophic);
- Oligotrophic saturated forest (seepage swamp);
- Hardwood bottomland hardwood forest (submesotrophic);
- Oligotrophic saturated emergent wetlands (bogs, fens, etc.);
- Seasonally flooded forest (swamp);
- Seasonally flooded emergent wetland (marsh);
- Seasonally depressional woodlands;
- Forested, riverine, freshwater tidal shoreline;
- Open, riverine, freshwater tidal shoreline; and
- Open water (lakes, beaver ponds, etc.).

Most of the forests on the installation are about 40 years old with the exception of those in the Blackwater Swamp where they are older. This swamp is in the southeast corner of the installation, beyond the golf course. The most common forest type is composed of pine and mixed-hardwood species. This community includes white oak, southern red oak, willow oak, water oak, sweet gum,
red maple, loblolly pine and American holly. Shrubs and herbaceous plants typical of this community include sweet pepperbush, dangleberry, black huckleberry and hillside blueberry.

Existing forested areas form a permanent buffer along the installation boundaries and create a well-defined edge around the developed portions of the cantonment area. The section of the post north of Route 36 is primarily wooded, except for the Jackson Circle family housing area and various cleared training areas. South of Route 36, the installation generally consists of woodlands of mixed pine and hardwood species. Near the Lee Avenue gateway, the predominant species are Loblolly Pine and oak varieties, with mixed hardwood stands of oak, hickory and maple throughout. Additional small hardwood stands are found near Blackwater Swamp and along streams and poorly drained areas.

All of the woodlands on Fort Lee are managed under the Forest Inventory and Vegetative Assessment of Fort Lee (1997), which identified 30 forest compartments within the cantonment area. Management of the forest resources is based on the particular requirement of the vegetation in each compartment. Most of the woodlands have good surface drainage and adequate ground water reserves to maintain a good tree cover, but logging and construction traffic is tightly regulated to preserve the structure and drainage of the soil and to prevent erosion and sedimentation.

Shade trees, predominantly southern magnolia, willow oak (Fig. 4.13), white ash and white pine, are planted throughout the cantonment area along streets and around buildings and parking lots. Azalea, boxwood, holly, abelia and juniper are commonly used shrubs at Fort Lee. Extending development into wetland areas is avoided and the use of indigenous species in reforestation and landscaping is Fort Lee policy. Native grasses and understory plantings are used at the existing forest edge in a transition zone between native woodlands and plantings used in developed areas.

Fig. 4.13 - Willow Oaks are widely used on grounds and along streets.
Landscaping is used throughout the developed areas of the installation to enhance the natural beauty of Fort Lee and to provide comfortable and useful outdoor areas for pedestrian movement, gathering and training. Grounds are seeded with tall fescue, lespedeza, creeping red fescue and Kentucky blue grass. Bermuda grass is the natural grass found on Fort Lee. Landscaped areas and improved grounds generally, are limited to the minimum extent necessary to support the mission of individual facilities or to enhance the installation as a whole. Excessive areas of improved grounds and landscaping are discouraged because of the maintenance costs and time that they demand once installed.

Five species of plants listed as federal endangered species occur at Fort Lee. They are Virginia thistle, beakrush, slender plume grass, torrey beadrust and coast violet. Several other species of plants listed on the Virginia Division of Natural Heritage (VDNH) watch list, meaning that they are uncommon or of uncertain status in Virginia and may require additional monitoring or conservation efforts in the future. The species on this list are dwarf sundew, pink sundew, tree groundpine and little floating bladderwort. (Fig. 4.14)
4.1.3.7 Wetlands

The largest area of wetlands on Main Post is the Blackwater Swamp (Fig. 4.15), located in the southeast corner of the installation, beyond the golf course. This wetland is designated by the VDNH as a wetland conservation zone. The second major area of wetlands is located along the lower reaches of Bailey Creek (Fig. 4.16) in the northeast corner of Main Post. This stream carries significant quantities of storm water off the installation. Important wetlands, occurring along the stream banks, contribute significantly to the stability of the stream channels and mitigate downstream surges in the runoff of stormwater.

Wetlands on Fort Lee are protected by a buffer area extending out 100 feet from the delineated edge of the wetland. (Fig. 4.17) Disturbance of the soil or vegetation within this buffer is regulated to protect the wetland from sedimentation which would compromise its natural hydrological and habitat functions.

Fig. 4.15 - A typical view of Blackwater Swamp.

Fig. 4.16 - A typical view of Bailey Creek wetlands.
4.1.3.8 Wildlife

Twenty-three species of mammals have been identified in surveys conducted at Fort Lee. All but one species of mouse are native to the area. Most were observed or trapped in the mixed hardwood forests, mixed hardwood and pine forests or grassland areas of the installation. Game animals, such as wild turkey, squirrels, rabbits and white-tailed deer, have been sighted in the cantonment area. (Fig. 4.18) Most sightings have occurred along the boundary of the Petersburg National Battlefield Park. White-tailed deer are known to inhabit both the installation and the park, relying on the open boundary for access to both.

One hundred thirty-one species of birds have been identified at Fort Lee. Eighty-seven species have been observed using the installation during the breeding season and one hundred nine species have been observed during migratory periods.

Species of reptiles and amphibians have also been found at Fort Lee predominantly in forested areas and near or in wetlands. (Fig. 4.19)

There are no currently identified threatened or endangered species of fauna within the cantonment area of Fort Lee. The Blackwater Swamp has been designated a Threatened and Endangered Species Water owing to the documented occurrence of the blackbanded sunfish, a Virginia-listed endangered species. A documented colony of waterbirds, including great blue heron and great egret, has been observed in the southeastern corner of the installation. The great egret is included on the Virginia list of Species of Special Concern. (Fig. 4.20) Other species listed as rare in Virginia have been found on Fort Lee in recent and earlier surveys.

4.1.3.9 Environmentally Sensitive Habitat

Three conservation zones have been identified to protect these and other important species which inhabit or migrate through Fort Lee. Two of these conservation zones are associated with Blackwater Swamp and other wetlands in the cantonment area.
4.1.4 Man-Made Environment

Fort Lee is generally divided by Route 36 into two areas called the Main Post and the Range Area. The TA-5 area north of Route 36 is being prepared for the construction of the Ordnance School Training facilities. The Main Post is undergoing redevelopment as new buildings constructed during the recent past have replaced most of the World War II wooden structures that filled the cantonment area. In addition, demolition programs have eliminated many of the older buildings so that the northern and southern ends of the cantonment area contain substantial areas where the old street grid remains but new forested areas have reclaimed the former building sites. (Fig. 4.21)

Buildings in the cantonment area are mostly between one to four stories in height and many have been constructed since 1990. The overall impression one gets of the installation is that relatively new and well-maintained buildings predominate. There are some groupings of older barracks that have not yet been upgraded but many have been and they present a fresh new appearance. Throughout much of the cantonment area, groups of trees and large individual trees have been maintained so the overall impression is that of a well-vegetated campus. This effect is most pronounced in the crescent area while the northern portion of the cantonment area is somewhat less vegetated. (Fig. 4.22)

An area of old wooden warehouses stretches along the railroad lines that run parallel to Route 36. These buildings are mostly screened from views from the highway by dense vegetation between the perimeter fence and the railroad tracks. This buffer consists of tall pine trees and a wide variety of understory species. Because many of understory trees and shrubs are deciduous, the screening effect is less effective during winter months. Some of the warehouses have been upgraded and many are used for shops and office space.

An area near the center of the installation is occupied by family housing villages. Three new villages have been recently constructed and are situated on high
ground with open views in all directions. This new housing replaced earlier structures so the area is generally without significant vegetation and will remain rather open until the trees planted near the houses and along the streets mature. On adjacent lower lying areas, additional older housing remains amid substantial numbers of mature hardwood trees. Much of this remaining housing is scheduled to be replaced with newer units, but some will be retained and upgraded.

Between the training campus and the family housing lies a complex of buildings and open space that provides a variety of community services and recreation. The PX and related commercial shops and food court occupy single-story buildings surrounded by parking. An auto hobby shop and vehicle storage facility that is part of this complex is isolated in the woods behind it and out of view. The Fort Lee ACS (Army Community Services Facility) and Lee Playhouse are across the parking lot on the west side of Mahone Avenue, as are a bank and restaurant. The far western portion of this central community services area is occupied by a number of recreation fields, an outdoor track, a stadium and a fitness center. The entire area is well-vegetated with street trees and scattered stands of mature and younger trees. Immediately adjacent to the southwest is an extensive temporary lodging complex of one and two story buildings in a heavily wooded setting.

The southern end of the installation is occupied by tenant facilities interspersed with large blocks of wooded open space. These facilities are of two types; single buildings with associated parking and groups of building that form individual campuses. In all cases, they are widely separated and not visible from other parts of the installation. Much of this southern area retains the street grid that served the numerous wooden buildings that were originally constructed there.
4.1.4.1 Contaminated Areas

There are no active solid waste disposal sites at Fort Lee, but several inactive and closed landfills do exist. They are in scattered locations in the cantonment area, mostly along the slopes adjacent to the Bailey Creek stream valley. The largest has been reused for the recreation complex on 5th Street. A second site has also been reused for recreation fields at the southern extension of 2nd Street. None of the remaining areas will likely be used for building sites because the cost of removing debris would be excessive and there are a number of other locations for buildings that are not constrained by this cost. These sites are included in the map of Environmentally Constrained Sites. (Fig. 4.23)
4.1.4.2 Solid Waste Management

Solid waste management includes the collection, storage and disposal of domestic, infectious, industrial and hazardous waste and the management of pesticides. Fort Lee is classified as a large quantity generator of hazardous waste, primarily due to vehicle painting operations. (Fig. 4.24)

All hazardous waste from these activities and others is temporarily stored at the facility where it is generated. Contractors regularly collect the waste and remove to appropriate disposal sites off the installation. Potentially infectious waste from the medical and dental clinics and the veterinary facility are also stored temporarily before being removed by regulated contractors. All of this is done in full compliance with state and federal regulations.

Domestic waste is normally collected in each building by the occupants or janitorial staff and placed in dumpsters assigned to each building. The dumpsters are then emptied on a regular basis, or special call, by a contractor who disposes the waste off at various regulated facilities in the region.

4.1.4.3 Noise

Activities at Fort Lee that contribute to noise include vehicles such as trucks and heavy equipment, helicopters, generators and the firing of small arms. The helicopter noise is generally confined to the area of the helipad near the Sisisky Boulevard gate and the small arms fire occurs only at the skeet range, on the eastern edge of the cantonment area and the training range north of VA Route 144. While there have been no complaints about these sources from people living off the installation, they must be accommodated by new projects on Fort Lee. (Fig. 4.25)
4.1.4.4 Air Quality

Fort Lee lies within the Virginia State Capital Interstate Air Quality Control Region as designated by the federal Environmental Protection Agency (EPA). The Commonwealth of Virginia operates several monitoring stations within a few miles of Fort Lee. These stations measure total suspended particulate, sulfur dioxide, air toxins and ozone. According to the Virginia Department of Environmental Quality (VDEQ), the air quality at Fort Lee did not violate National Ambient Air Quality Standards in 2001. In May 1993, Fort Lee received a permit under Virginia’s Synthetic Minor Program which established enforceable air emissions limits for the installation. The permit covers particulates, nitrogen oxides, sulfur oxides, hydrocarbons and carbon monoxide. Operation under the constraints of Virginia permit allows Fort Lee to forgo the process required to receive a federal Title V permit. (Fig. 4.26)

There are no major sources of air pollution at Fort Lee. Minor sources of pollution that do exist include boiler and heating plants, generators, paint booths and construction projects. Continued reduction of emissions from these sources is expected as heating plants are converted from fuel oil to natural gas.

Mobile pollution sources are primarily commuter and government-owned vehicles (GOV). Vehicular activity on and off the installation is believed to be the largest contributor to air pollution on and around Fort Lee. As a result, the region has been classified as a being in non-attainment for ozone. This means that new development projects are required to conform to regional programs for reducing pollution to attain the air quality standards established by EPA. The analysis begins with a conformity applicability analysis, or estimate of the pollution that will be generated by the construction and operation of the project. If the estimate shows that the project will not substantially impair the regional programs, no further analysis is required. If higher levels of pollution are anticipated from the project, a full conformity analysis is required to develop the mechanisms by which the project will contribute to a reduction in regional pollution.
4.1.4.5 Cultural Resources

Fort Lee is located within an area of abundant cultural resources. Prehistoric sites have been located dating to 9,000 B.C. Prince George County was the site of one of the earliest English settlements in the New World. Native American settlements were located where European colonists later founded the cities of Petersburg and Richmond. In the 17th through 19th centuries, crops including tobacco and corn made this part of Virginia an important center of commerce. Many of the existing historical resources in the region date to the Civil War period. Hopewell is the home of City Point Manor from which General Grant directed the siege of Petersburg. Petersburg National Battlefield Park borders Fort Lee on the southwest.

About one-third of Fort Lee has been too disturbed by military activity and construction to yield significant archaeological information. A comprehensive archaeological survey was performed in 1984 and again in 2003, which identified 115 archaeological sites at Fort Lee. Of these 115 sites, 25 have been recommended as potentially eligible for listing and inclusion to the National Register of Historic Places (NRHP). These sites would require mitigation (i.e., Phase III Data Recovery) before any of the sites could be impacted by construction. Archaeological sites at Fort Lee are included in the areas shown on Fig. 4.23, Environmentally Constrained Sites. These sites are also protected during construction projects with a 100-foot buffer.

Existing structures 50 years or older on the installation are required to be evaluated before they can be extensively altered or demolished. Buildings 3206 and 4300 (Figures 4.27, 4.28, 4.29) have been determined to be eligible for listing and inclusion to the NHRP. Additions or modifications to either building must be approved by the State Historic Preservation Office (SHPO) prior to any action being taken. Building 10000, previously eligible, is not afforded the same level of protection because it is an intact example of a Capehart-Wherry structure. This type of structure is widely used and adequately preserved or documented elsewhere. As a result, Building 10000 is no longer eligible for the NHRP.
4.2 EXISTING LAND USE

4.2.1 The U.S. Army Combined Arms Support Command (USACASCOM) and Fort Lee is a major Army subcommand under the jurisdiction and command of the U.S. Army Training and Doctrine Command (TRADOC) at Fort Monroe, Virginia.

Fort Lee is divided into two areas: Main Post and the Range Area. The Main Post is the larger of the two and contains housing, administrative, community services other primary activities of the installation. The Range Area is a rectangular tract north of the Main Post and contains a small arms firing range, an aircraft drop zone, and undeveloped land.

Three major TRADOC interrelated missions are located at Fort Lee. These are the Combined Arms Support Command (CASCOM [see Fig.4.30]), Quartermaster Center and School (QMC&S), and Army Logistics Management College (ALMC).

The CASCOM's mission includes the development and coordination of all Combat Services Support (CSS) multi-functional leader development, doctrine development, force structure, and training as it applies to all Combat Support (CS) and CSS related specialties. (Fig. 4.31)

The QMC&S at Fort Lee is the headquarters of the Quartermaster Corps and the home of the Quartermaster Corps Regiment. The QMC&S consists of five major training departments: Army Center for Excellence, Subsistence; Petroleum and Water Department; Aerial Delivery and Field Services Department; Logistics Training Department; and Mortuary Affairs Center. These departments provide training and professional development for military personnel of the Active Army and Reserve Components, members of other branches of the Armed Forces, civilians, and personnel of allied countries. The Quartermaster Noncommissioned Officer (NCO) Academy is also located at Fort Lee as part of the QMC&S.
BRAC will consolidate and locate the Ordnance School and Training facilities at Fort Lee in what is now TA-5. (Reference page 4-6 for details.)

The ALMC provides diversified educational, doctrinal, research, consulting and information services for the Department of Defense (DoD). The primary mission is to improve acquisition management, logistics support, logistics operation, and related functions to increase the readiness and sustainability of the United States and allied armed forces. (Fig. 4.32)

The most actively used area of Main Post is the crescent-shaped area, extending along Adams, Byrd and Carver Avenues from 1st Street through Lee Avenue to 34th Street. The dominant activity here is the Advanced Individual Training Programs for the Quartermaster Corps. For these soldier-trainees the Fort Lee experience centers around the barracks areas, where they live for six to eight weeks. Drills, mustering, and physical training exercises take place on the grounds surrounding the barracks, while shop and classroom training areas are located immediately across Adams Avenue along Mekong and Shop Roads. The nearby woodlands of the Bailey Creek Valley are used for some training exercises, while other field training is held in the range areas north of Route 36 or within the Tenant Campus in the 38th Street area. The troops commute frequently between these areas both by foot and in transport vehicles.

While the northern crescent area is primarily dedicated to Quartermaster Corps training and relatively short-term residency, the southern crescent area includes the Kenner Army Clinic and barracks and operations facilities for the permanent party. The wooded parkland of the Historic Petersburg Battlefield lies just across Adams Avenue from these barracks and provides areas for personal recreation and physical exercise (particularly for distance runners). Athletic fields are clustered in the open space flanked by barracks at 33rd Street or located in the meadows on the edge of the parkland across Adams Avenue.
Other facilities in this area include a cluster of small temporary service buildings to the west of Mahone Avenue. The motorpool at 30th Street separates the two clusters of barracks along Adams and Byrd Avenues and is somewhat unrelated to these residential functions. Finally, the Fort Lee Lodge for visiting personnel is located east of Mahone Avenue on the edge of the wooded stream valley. (Fig. 4.33)

Fort Lee contains a variety of land uses, as shown on the existing land use map on the following page. (Fig. 4.34 and 4.34a)

Lee Avenue, extending Southeast from Route 36 and Lee Gate, crosses the crescent area creating a strong visual axis that extends to the Lee Club. Formal lawns, parade grounds and athletic fields flank Lee Avenue (Fig. 4.35) and make this area the central ceremonial open space of the installation.

Two projects are extending the reach of new facilities southeastward along Adams Avenue towards CASCOM. A Soldier One Stop building recently opened on the South side of Adams Avenue at 34th Street and the Military Entrance Processing Service (MEPS) building been constructed at the intersection of A and Mahone Avenues. Open space currently exists between the Soldier One Stop and CASCOM as the topography drops significantly to the headwaters area of Bailey Creek.

Fig. 4.33 - Fort Lee Lodge is used by visiting personnel.

Fig. 4.35 - Open lawns with stands of mature trees flank Lee Avenue.
Figure 4.34
Existing Land Use Map
Figure 4.34Ai
Existing Land Use Map
North Range Complex
There are two major Community Services Centers at Fort Lee. (Fig. 4.36) A PXtra and a cluster of other related support facilities, including the ACS and Fort Lee Lee Playhouse, make up the Community Services Center located between the crescent and family housing areas. This central location makes these community facilities easily accessible to a large portion of the resident population. The Community Services Center is active throughout the day, functioning much like a commercial shopping center. Both vehicular and pedestrian traffic is significant and parking demand is high.

A second Community Services Center just inside the Sisisky Boulevard gate includes a PX, Commissary and gasoline station. This center is ideally located for access to personnel arriving from outside the installation on Route 36 and Temple Avenue. This location also helps limit shopper traffic through the internal areas of the installation most heavily used by soldiers moving between barracks and training facilities.

Tenant facilities are located in the southern portion of the installation on relatively scattered sites that are often separated from each other by the wooded stream valley complex at the headwaters of Bailey Creek. The principal tenants located in this area are the ALMC campus and the Commissary Administration.

Quartermaster Corps activities also occupy sites in this southern area composed of streets in a rigid grid pattern between 38th and 41st Streets south of Adams Avenue. The most significant of these are the ALMC, the Water Department and the Petroleum School with classroom buildings and field training equipment located at the southern end of the area. The street pattern and few remaining temporary buildings are here as a result of past wartime development programs, which in some cases causes siting problems for current facilities. However, the area enjoys an abundance of tall mature pines. As the last of the older frame structures are removed, open development sites will be created for future planned facilities.
The family housing areas are organized much like suburban neighborhoods. An aggressive construction program is replacing old housing units. All the activities of family life take place here, with children playing in the yards or riding bicycles along the sidewalks and streets. In the central family housing area, the neighborhood areas are separated from the rest of the main cantonment by the Bailey Creek Valley, and surrounded by woodland. A hill top neighborhood center provides a community focus in the area bounded by Yorktown Drive, Battle Drive and Sisisky Boulevard. This area includes athletic fields, children's playground, chapel, meeting rooms and day care services.

The medical facilities on Fort Lee are mostly collocated in the area of the Kennner Clinic located near the intersection of Adams Avenue and Lee Avenue, near the Lee Avenue Gate. Veterinary facilities are also included in this land use category and are located off of 38th Street near Eisenhower Avenue.

4.3 PROPOSED LAND USE

Fort Lee was designated a permanent installation in 1950. Facilities designed and built for long term use have been gradually replacing "temporary" World War II era frame structures. Fort Lee tends to be a forward-looking installation where on-going and future development, will have a greater impact on the visual image of the post than the existence of historic structures.

Most of the planned facilities at Fort Lee are related to the Quartermaster Corps training activities and are, therefore, sited along the southern crescent area from 1st to 19th Streets. Nearly all the area from 1st to 11th Streets will be redeveloped. A complex of new training buildings will be developed between 3rd and 5th Streets, including barracks, dining facilities, classroom buildings and support functions.

An area Troop Housing located on the southern end of the Main Post and near the Mahone Avenue Gate will be reclassified as Administration. The area of
Administration near the intersection of Adams Avenue and 40th Street will expand eastward. Additional administration activities are collocated with the range of activities, which they support. Similarly, numerous projects in the phasing plan provide for administrative space within the proposed facilities.

In the Service/Support area west of Sisisky Boulevard, the motorpool is to be reorganized and consolidated, and a major medical supply warehouse is to be built near 11th Street.

Expansion of the CASCOM is planned to the southeast of the existing building, requiring the realignment of Sisisky Drive at the 41st Street intersection. Various other tenant facilities are planned throughout the 38th/41st Streets area at the Petroleum School. These plans indicate that a few key areas are likely to experience concentrated development. They are:

- North Crescent Area
- Sisisky Boulevard Gateway Area
- Tenant Campus Area

The main maintenance land use zone is situated along Quartermaster Road parallel to Route 36. The future development plan calls for a major vehicle maintenance facility to be constructed. The new vehicle maintenance facility will be located in the area bounded by Mahone Avenue, Jessup Street, and 34th Street. The project will replace existing, inadequately sized vehicle maintenance facilities. The Community Facility land use adjacent to this area is incompatible with Maintenance and buffering, screening, or some form of separation will be required. (Fig. 4.37)
Troop housing is centered in two main locations in the installation. One is between Sisisky Boulevard and 13\textsuperscript{th} Street and Carver and Adams Avenues. This area will expand east to 16\textsuperscript{th} Street. The second is the area adjacent to the Kenner Army Health Clinic at Adams and Lee Avenue. The future development plan addresses deficiencies in barracks facilities. These projects call for demolition of old barracks to make space for new construction. The Troop Housing land use zone will expand to 13\textsuperscript{th} Avenue to accommodate these projects. It is important to note that SHPO will be consulted during construction in these areas. A second area, at the intersection of Mahone Avenue and Byrd Avenue, will be developed as Administration.

The main housing area for unaccompanied officers is located at the intersection of Lee and Mahone avenues near the officers’ open dining facility. Fort Lee has adequate officer housing capacity and no change in land use is needed.

In the south crescent area, additional Unaccompanied Officers Quarters are to be developed at Mahone and Carver Avenues and recreational facilities are planned south of 34\textsuperscript{th} Street.

The Madison Park Family Housing located north of Battle Avenue is to be redeveloped for enlisted personnel. Recently, 124 new duplex units were constructed. There are 148 outdated units in Madison Park that will be demolished and replaced with another 102 duplexes. This project started in the fall of 2007. The new units will incorporate fire safety and energy saving features, as well as broad range of modern amenities.

Another housing renewal calls for the construction of 125 housing units for officers and 4 units designated for general officers (GFOQ). Phase 1 of this effort will include the construction of approximately 55 officer’s quarters and 2 general/flag officer quarters. Phase 2 will include 70 officer’s quarters and 2 general/flag officer quarters. These units will replace existing, outdated officer family housing quarters that will be demolished to make room for the new construction. The proposed project does not require changes to the
existing officer family housing land use zone. The officer quarters will be constructed in Zone B-2 and the GFOQ’s in Zone D.

The Sisisky Boulevard Community Center will expand south to include the area bounded by 5th Street, Byrd Avenue, and 1st Street. Additional areas of Community Facilities will be added on Adams Avenue between Mahone Avenue and 34th Street and in the area bounded by 41st Street, Adams Avenue, and 40th Street.

The future development plan calls for expansion of the veterinary and kennel facilities. The construction of a military working dog facility is complete. As a result, the medical land use area has been expanded in the vicinity of the veterinary facilities.

In the future land use plan several areas currently designated as open space will be given over to other uses. A currently empty parcel of land off Quartermaster Road just west of the Sisisky Boulevard Gate will be developed for self-storage. This activity will be contiguous with the existing supply/storage land use zone located along Quartermaster Road. Recreation land use will expand into Open Space land use near the Travel Camp and near the stables. Near the intersection of Mahone Avenue and Adams Avenue Open Space will be developed in Community Facilities and Maintenance.

Recreation land use zones are situated all across the Main Post. These zones also function to separate potentially incompatible land uses and to preserve and enhance the visual integrity of the installation.

Supply/storage facilities are located along Quartermaster Road parallel to Route 36 on the north side of the Main Post. The future land use plan calls for the supply/storage zone to be extended east to 11th Street to accommodate the proposed construction of self-storage warehouses.

Significant projects to enlarge and improve the classroom training facilities are called for in the future development plan. These improved facilities will
mostly replace existing outdated buildings that will be
demolished to make room for the new construction.
No expansion of the classroom training land use
areas is required.

However, two areas of Training (Classroom) will be
redeveloped for other uses. An area bounded by
Adams Avenue, 11th Street, Byrd Avenue, and 13th
Street will be redeveloped as part of the AIT barracks
program. The second area, bounded by 41st Street,
Adams Avenue, and 40th Street, will be developed as
Administration.

As a result of this new development, the visual
environment of Fort Lee will be significantly altered.
Not only will there be more buildings in the main
portion of the cantonment area but the use of existing
building is likely to intensify. This is likely to result in
more vehicular as well as pedestrian traffic. These
changes will add positively to the appearance of Fort
Lee as the new development furthers the goals and
practices directed by this IDG. As the plans for these
new facilities progress, all aspects of their design
should be closely coordinated through the diligent
application of the design criteria.